

## **OSU Center of Excellence in Regulatory Tobacco Science (OSU-CERTS)**

Comprehension of Health Risks in More and Less Arousing Affective Contexts (Project 4)

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### **Abstract:**

Tobacco use remains the largest preventable source of mortality in the United States. Public perceptions and understanding of tobacco's health consequences are central responsibilities of FDA's regulatory authority over public-health education efforts, including the regulation of graphic warnings, advertising, and new product/Modified Risk Tobacco Product determinations. Project 4 aims to study psychological mechanisms that influence the public's perceptions of tobacco products because of the central role they play in influencing quit intentions and usage. In particular, we focus on the role of affective arousal in making warnings on cigarette packs more effective, while at the same time, its role in brand advertising and promotion may make tobacco products appear less risky. Affective arousal is important because its presence has been linked with improved long-term memory and understanding of information. By experimentally manipulating affectively arousing cues (graphic images and smoking cues), this research has three aims designed to identify ways to maximize long-term effectiveness of health information. In Aim 1, we will experimentally test effects of graphic images (that vary in arousal) on understanding of text-based smoking-risk information short- and long-term. To fulfill this aim, we propose to randomize 136 adult and 136 adolescent smokers to an image condition that varies in arousal (no image, low, medium, or high arousal) and to a time point (immediate, one week, or six weeks) to test risk understanding, perceptions, and use. We predict that more arousing images will produce greater long-term understanding. Aim 2 uses a similar design and examines arousal effects on long-term understanding of numerical health risks. We hypothesize that numerical information will be better understood over time in the presence of more arousing warning images and among individuals with greater numeric ability. In Aim 2a, we test absolute and relative risks with 154 adult and 154 adolescent smokers whereas Aim 2b includes 154 adult smokers and examines percentage vs. frequency formats. Finally, for Aim 3, we will experimentally test the presence vs. absence of pro-tobacco smoking cues to examine effects on understanding of health risks at exposure and one and six weeks with adult (N=154) and adolescent (N=154) smokers. We hypothesize that the presence of smoking cues will have opposite effects of warning images, increasing perceptions that smoking is less risky.